

B. BUNNER

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/314,161DATE: 02/23/2001
TIME: 14:20:15RECEIVED
MAR 05 2001
TECH CENTER 1600/2900Input Set : A:\314161.txt
Output Set: N:\CRF3\02232001\I314161.raw

3 <110> APPLICANT: EISENBACH-SCHWARTZ, Michal
4 COHEN, Irun
5 MOALEM, Gila
6 BESERMAN, Pierre
7 MONSONEGO, Alon
9 <120> TITLE OF INVENTION: ACTIVATED T-CELLS, NERVOUS SYSTEM-SPECIFIC ANTIGENS AND
10 THEIR USES
12 <130> FILE REFERENCE: EIS-SCHWARTZ=1A
14 <140> CURRENT APPLICATION NUMBER: 09/314,161
15 <141> CURRENT FILING DATE: 1999-05-19
17 <150> PRIOR APPLICATION NUMBER: 09/218,277
18 <151> PRIOR FILING DATE: 1998-12-22
20 <150> PRIOR APPLICATION NUMBER: PCT/US98/14715
21 <151> PRIOR FILING DATE: 1998-07-21
23 <150> PRIOR APPLICATION NUMBER: IL 124550
24 <151> PRIOR FILING DATE: 1998-05-19
26 <160> NUMBER OF SEQ ID NOS: 16
28 <170> SOFTWARE: PatentIn Ver. 2.0
30 <210> SEQ ID NO: 1
31 <211> LENGTH: 612
32 <212> TYPE: DNA
33 <213> ORGANISM: Homo sapiens
35 <400> SEQUENCE: 1
36 ccaagaagat cccacagcag cttccgaagg cctggatgtg atggcatcac agaagagacc 60
37 ctccacagcga cacygatcca agtacttggc cacagcaagt accatggacc atgcccggca 120
38 tggcttcctc ccaaggcaca gagacacggg catccttgac tccatcgggc gcttctttag 180
39 cgggtgacagg ggtgcgcccc agcggggctc tggcaaggac tcacacacaa gaactaccca 240
40 ctacggctcc ctgccccaga agtcgcagag gacccaagat gaaaaccag tagtccactt 300
41 cttcaagaac attgtgacac ctctgacacc cctccatcc caaggaaagg ggagaggcct 360
42 gtccctcagc agatttagct ggggaggaaag agacagccgc tctggatctc ccatggcaag 420
43 acyctgagag cctccctgct cagccttccc gaatcctgcc ctgggttct taatataact 480
44 gccttaaacg ttttaattcta cttgcaccaa atagctagtt agagcagacc ctctcttaat 540
45 cccgtggggc tgtgaacgcg gcggggccagc ccacggcacc ctgactggct aaaactgttt 600
46 gtcccttttt at 612
48 <210> SEQ ID NO: 2
49 <211> LENGTH: 2139
50 <212> TYPE: DNA
51 <213> ORGANISM: Homo sapiens
53 <400> SEQUENCE: 2
54 gaaaacagt cagccacctc cgagagcctg gatgtgatgg cgtcacagaa gagaccctcc 60
55 cagaggcacg gatccaaagta cctggccaca gcaagtacca tggaccatgc caggcatggc 120
56 ttccctccaa ggcacagaga cacgggcac cttgactcca tcgggcgctt ctttggcggg 180
57 gacaggggtg cgccaaagcg gggctctgac aaggactcac accaccgggc aagaactgct 240
58 cactatggct cctgcacca gaagtacac ggcgggaccc aagatgaaaa ccccgtagtc 300
59 cacttcttca agaacattgt gacgectcgc acaccacccc cytcgcaggg aaaggggaga 360
60 ggactgtccc tgagcagatt tagctggggg gccgaaggcc agagaccagg atttggctac 420
61 ggaggcagag cgtccgacta taaatcggt cacaagggat tcaaggagat cgatgccca 480

ENTERED

RAW SEQUENCE LISTING
 PATENT APPLICATION: US/09/314,161

DATE: 02/23/2001
 TIME: 14:20:15

Input Set : A:\314161.txt
 Output Set: N:\CRF3\02232001\I314161.raw

```

62 ggcacgcttt ccaaaatttt taagctggga ggaagagata gtcgctctgg atcaccatg 540
63 gctagacgct gaaaaccacac ctgggttccgg aatcctgtcc tcagcttctt aatataactg 600
64 cctttaaact ttaatccac ttgccctgt tacctaatta gagcagatga cccctccct 660
65 aatgectgag gagttgtgca cgtagtaggg tcaggccacg gcagcctacc ggcaatttcc 720
66 ggccaacagt taaatgagaa catgaaaaca gaaaacgggt aaaactgtcc cttctgtgt 780
67 gaagatcacg ttccttcccc cgcaatgtgc cccagacgc acgtgggtct tcagggggcc 840
68 aggtgcacag acgtccctcc acgttccacc ctccaccctt ggactttctt ttcccggtg 900
69 ctgggacccc ttgcttctt gctgttact gccatggagg cacacagctg cagagacaga 960
70 gaggacgtgg gcggcagaga ggactgttga catccaagct tcttttgtt ttttttcty 1020
71 tcttctctc accctcctaaa gttagacttca ttttctctaa caggattaga cagtaaggga 1080
72 gtggcttact acatgtggga gctttttgt atgtgacatg cgggctgggc agctgttaga 1140
73 gtccaacgtg ggcagacaca gagagggggc cactcccca ggccgtgtgt gccacacac 1200
74 cccaattagc tgaattcgcg tgtgacagag ggaggaagag gaggaacag tgggctyggc 1260
75 aatggcctca cataggaac agggctcttc tggagatttg gtgatggaga tgtcaagcag 1320
76 gtggcctctg gacgtcacg ttgccctgca tggtygccc agagcagcct ctatgaacaa 1380
77 cctcgcttcc aaaccacag ccacagccgg agagtccagg aagacttgcg cactcagagc 1440
78 agaagggtag gactcctcta gacagcctcg cagcccgccc agtgcgccat agacactggc 1500
79 tgtgaccggg cgtgctggca gcggcagtg acagtggcca gcactaaccc tccctgagaa 1560
80 gataaccggc tcatctactt cctccacaga gacgcgtggt agcagtagg cacaggcgtg 1620
81 cactgtctcc cgaattactc accgagacac acgggctgag cagacggccc ctgtgatgga 1680
82 gacaaagagc tctctgacc atatcctct taacacccgc tggcatctcc ttccgcgct 1740
83 cctcctctaa cctactgacc cacttttga ttttagcgca cctgtgattg ataggccttc 1800
84 caaagagtcc cagcttgcca tcaccctccc cgaggacgga gatgaggagt agtcagcgtg 1860
85 atgccccaac gcgtctctt aatccaattc taattctgaa tgttctgtg ggccttaata 1920
86 ccatgtctat taatatatag cctcgatgat gagagagtta caaagaacaa aactccagac 1980
87 acaaacctcc aaatttttca gcagaagcac tctgcgtcgc tgagctgagg tcggctctgc 2040
88 gatccatcac tggcgcgacc cacacagcac gtgctgtgac gatggtgaa cggaaagtgt 2100
89 acactgttcc tgaattattga aataaaacaa taaactttt 2139
91 <210> SEQ ID NO: 3
92 <211> LENGTH: 581
93 <212> TYPE: DNA
94 <213> ORGANISM: Homo sapiens
96 <400> SEQUENCE: 3
97 taatatctag ggktttgact ctgaccctg ttggggctct cacttcatgg cttctcacgc 60
98 ttgtgctgca tatccacac caattagacc caaggatcag ttggaagttt ccaggacatc 120
99 ttcattttat ttccacctc aatccacatt tccagatgtc tctgcagcaa agcgaaattc 180
100 caggcaagcc ttagggaaaa aaggaaaaac aaagaaaatg aaacaatttg cagtgaagg 240
101 cagaaaagaga agatggagcc cttagagaag ggaagtatcc tgagtagggt gggaaaaagg 300
102 gaggagaagg ggaggaggag aggaggagga aagcaggcct gtccctttaa gggggttggc 360
103 tgtcaatcag aaagcccttt tcattgcagg ayaagaggac aaagatactc agagagaaaa 420
104 agtaaaagac cgaagaagga ggcaggagag accaggatcc ttccagctga acaagtcag 480
105 ccacaaagca gactagccag ccgctacaa ttggagttag agtcccaaag acatgggtaa 540
106 gtttcaaaaa ctttagcatt gaagattcaa gaggacacag g 581
108 <210> SEQ ID NO: 4
109 <211> LENGTH: 1762
110 <212> TYPE: DNA
111 <213> ORGANISM: Homo sapiens
113 <400> SEQUENCE: 4
114 ctgctttcag agcctgtgac ttctgtgtg cctctctgt ttctcagca catggcatag 60

```

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/314,161

DATE: 02/23/2001
TIME: 14:20:15

Input Set : A:\314161.txt
Output Set: N:\CRF3\02232001\I314161.raw

```

115 ggectgggat accaggctctg gggatctcag ggactcttag cactttaaga cacatgtgtt 120
116 cccaggccct ggtgtgttcc tctagtgcc aagaagatgtt tcatgcttgg ctgactttgt 180
117 ataaagtctg tttgtagctg ttttgacaga atctcagcgt ataactgagg gtggggacat 240
118 tagccaagct gcattatagg aggacaaaac tgcatacaa agtgccaaa atcattaaag 300
119 ctgcattttt attattggga gtaatatcaa acctcctatt ttccaatttt ctttcttctg 360
120 cctgtgctag ctccatcctg tttggactgc tectcccata tgtaaactaa gaagaatcaa 420
121 gcattctttg caacaaatad acacgatgct caaaaatgtc caggagcacc caatttccaa 480
122 agtttctctc acctggaatg ctcttcatgc taaaatcctg tctgacaata ccaqcatctc 540
123 tggcctgcac toatcccttc ctggaactcc aagtgcattt accctctgtt accacttact 600
124 tggctgcctg aattgttagt tgaataatatt aggtctactt agctaattct tctcaggyaa 660
125 attaaagact cccatattgc agagtctgtg tcttttctct ctctcatatc cgtataacac 720
126 ccagcataat gctgggcata tagtgagtat tccataaata gttgtgaaat gactaaaata 780
127 agcaagcaaa caaacagact agaacaataa gaaagaaggg actggatttc ataactctct 840
128 tggcttgcta tttgaattgc tgaattarta ttatttatta aatatttttt aatttctggc 900
129 aataaaaggc aaggattttt ttttttttct tctttttttt tttcttgaga cagagtctcg 960
130 ctcttactgc ccaggctgga gtacaatggc gcaatcttgg ctcaagcaca cctccgcttc 1020
131 ctctctgggt taacagattc tctgtctca gctcctgag tagctgggat tacaggcata 1080
132 cgcccatgcc cggctaattt ttgtatttlt agtagagacg ggttttggcc atgttgcca 1140
133 ggctggtctt gaactctga cctcatgtga tccacotgcc tcagcctccc aaagtgcctg 1200
134 gattacagcc atgcgcacc gtgcctggcc aaqattttat ttccaagaat gaaacaaagt 1260
135 aaggattctg ggtcaatctc acatgctgaa agccaaaacc tctagecct cctgcttttt 1320
136 gacttcggag tgcacactat ctccagcct gtgagcacag ggcctggcag aggggtttga 1380
137 gtggcatgag ctactactg gatgtgctg actgttctcc ctctctcttc cccactgga 1440
138 ttagagtgtc gtgcaagatg tctgttaggg gccctcttgg ctctcctggt ggcactgga 1500
139 ttgtgtttct ttgggtgggc actgttctgt gctgtgggac atgaagcct cactggcaca 1560
140 gaaaagctaa ttgagaceta ttctccaaa aactaccaag actatgagta tctcatcaat 1620
141 gtgtaagtac ctgcctctcc acacagacc atcttttttt tccctctctc catcctggag 1680
142 atagagaact ctcaagtacc ttagtaacta gcaggggact ggggtgggac cagacggat 1740
143 tcccgagtct tccctctgtg ca 1762
145 <210> SEQ ID NO: 5
146 <211> LENGTH: 828
147 <212> TYPE: DNA
148 <213> ORGANISM: Homo sapiens
150 <400> SEQUENCE: 5
151 ctagaataac cctagccttg ttaagggtgt cgctctgglg tatacctcac ttatgtcggg 60
152 aagaagacca ggtcttcaat taataagatt cctgtgtctc gtttgtctac ctgttaatgc 120
153 aggatccatg ccttccagta tgtcatctat ggaactgcct ctctcttctt cttttatggg 180
154 gcccctctgc tggctgaggg ctctacacc accggcgagc tcaggcagat ctttggcgac 240
155 tacaagacca ccatctgcgg caagggcctg agcgcaacgg taacaggggg ccagaagggg 300
156 aggggttcca gagccaaca tcaagctcat tctttggagc ggtgtgtgca ttgtttggga 360
157 aaatggctag gacatcccca caagggtgat atcctcagga ttttgtgcca ataacaaggg 420
158 gtgggggaaa attgggcgag agtctgtggc ctogtcccca cccaaggctg ggtcctctct 480
159 aggggcctgg catctgagtg aggaagcagat ggcctgagcc ttaaaaggtt cctaagcaa atttcttctc 600
160 acgtgggtgc cagctggctt agcctcacct ttcaaaaggt cagaccattt ctaagccatc 660
161 aaacagaaaa gcattgagtt tgtgggatgc ttgtacaat cagaccattt ctaagccatc 720
162 tgttggtatc cctttgttcc ctctctagta ggtaccacaa gagtggatct aactggacaa 780
163 gagtctaaaa tgcgtctcat gtgattgaga cttgggcacc tgagctraga gggaggatgg 828
164 ataataaaaa ttaataataa actccaaggt aaatttaca ttgtctg
165 <210> SEQ ID NO: 6

```

RAW SEQUENCE LISTING
 PATENT APPLICATION: US/09/314,161

DATE: 02/23/2001
 TIME: 14:20:15

Input Set : A:\314161.txt
 Output Set: N:\CRF3\02232001\I314161.raw

167 <211> LENGTH: 1140
 168 <212> TYPE: DNA
 169 <213> ORGANISM: Homo sapiens
 171 <400> SEQUENCE: 6
 172 gatcctcctc attcttcccc taccatttcc cccacccctc cgttatactg gggccagtta 60
 173 tctagtagat actgccaatt acccttggca gaggtgccct gctcactaat ttattttggg 120
 174 qgaqmgccct qaaacctggg tttaatgtct ggcacacgcc acttccagga tctcccagtt 180
 175 tgtgtttcta catctgcagg ctgatgtga tttctaacca acccagtga atcattttag 240
 176 tttgtggca tcacctatgc cctgaccgtt gtgtggctcc tgggtgttgc ctgctctgct 300
 177 gtgctgtgt acatttactt caacacctgg accacctgcc agtctattgc cttccccagc 360
 178 aagacctctg coagtatagg cagtctctgt gctgatgcca gaatgtatgy tgaattaggy 420
 179 tacggglgct ttggctctcc taccactat ggaagcacta tatatttggg tattttctta 480
 180 gtgttaaggag ggtggtgatt atgagaaaa tataaagtga tgaatgattg ggtcttagtt 540
 181 tattaactct tccctactga aaccagagag gtttcttccc ccggaaggga acttgggaag 600
 182 ggtgggaagtt ttcttggcca ttacacttgg cctactctag ttgactgcty ttcaaacccc 660
 183 caaagcagca catttcaata acaaacacaa ggtttsacca ctgttcaata ccaccttctc 720
 184 ttttttgtaa acctgtagaa aagaggatcc taattgttgg tagmatccaa mtttacagcc 780
 185 aggataatta gagatggaag aagggtctctg ggggaaagtc tccatgttgc cccgtaactc 840
 186 cataaagctt accctgcttg ctttttgtgt ctacttagg tgttctcccc tggaaatgctt 900
 187 tccttgycac gggttgtggc tccaaccttc tgtccatcty caaacacgct gagglgagty 960
 188 ggttatttgg gttattttac aagggaagtag ctaataccat acaaatata cccatggcct 1020
 189 tcaattttta ggactgaaag tttccctttg ctggattttg aattagccga ttgcttctta 1080
 190 caacatgttg gctaagtgtg cctgagccaa tgagcataga aggtaaaaca cctcttttct 1140

192 <210> SEQ ID NO: 7
 193 <211> LENGTH: 295
 194 <212> TYPE: DNA
 195 <213> ORGANISM: Homo sapiens
 197 <220> FEATURE:
 198 <221> NAME/KEY: misc_feature
 199 <222> LOCATION: (42)..(43)
 200 <223> OTHER INFORMATION: N at positions 42 and 43 is unknown
 202 <400> SEQUENCE: 7

W--> 203 aattagcaca cagaaggat atccaacaca tacaagctg tnnctatgga ctacactgga 60
 204 gcattattact gctgttgcaa gaaacatttc ttcttctctt ttctatttcc ctgcagttcc 120
 205 aaatgacctt ccacctgttt attgctgeat ttgtgggggc tgcagctaca ctggtttccc 180
 206 tggtaggttg actttgaatg atcttggcaa gtaaataggc ctgagatagt tgtgggtaca 240
 207 gctattctga aaggcaagaa ggtagactgc ttccatcctt gaaatgctgg agggg 295
 209 <210> SEQ ID NO: 8
 210 <211> LENGTH: 2940
 211 <212> TYPE: DNA
 212 <213> ORGANISM: Homo sapiens
 214 <400> SEQUENCE: 8
 215 aattctatat actatcacta tggctccact ttggatactc tccagtggat ttagttactc 60
 216 atatggaaat acctggggag acctcctaac attattagaa ttgttatgat tataatacaa 120
 217 ygctatgtcc caggctcttg tgatagtgt acagtgcctt gtgaatgtag tgtgctcatt 180
 218 gtgcagatta aaaacctaa gcaactgaag gtgaagtgt ttatctgaag ttattttata 240
 219 aagcagtgt cagacaacct gagctcacag aaacctctgg cccctactgc tgaggtttcc 300
 220 atacagagtc aagtaatttc tcaccttcta aaacgaattg atcatttaac caggggagag 360
 221 ctctactgca tgatgtggt gtgtgtctac agcaagcacc ctatgactct aagtcactcg 420

RAW SEQUENCE LISTING
 PATENT APPLICATION: US/09/314,161
 DATE: 02/23/2001
 TIME: 14:20:15

Input Set : A:\314161.txt
 Output Set: N:\CRF3\02232001\I314161.raw

```

222 gacatattga tgtggcgaag ccuaatatt gttcacttcc ctgaggaaaa ctcaagtcta 480
223 gatcaaacag aggtgtggaa taatcttta tgatttgatt ctctggccct gggccatgag 540
224 acccatgatg cctcagagac atcggacttc cagtcagtg tatatggaga aagccaaagc 600
225 tgggatgtac tgcctttttc agagcatggg tttttccctt atttagttat gattttattt 660
226 ctacccttcc tcattcccaa agggatttga gtagggagtg ctttcttttc tactctcatt 720
227 cacattctct cttctgttcc ctacagctca ctticatgat tgctgccact tacaactttg 780
228 ccgtccctaa actcatgggc ctaggcacca agttctgata ccccgtagaa atcccccttt 840
229 ctctaatagc gaggtcttaa ccacacagcc tacaatgtcg cgtctcccat cttaactctt 900
230 tgcttttggc acaactgggc cctctcttta cttgatgagt gtaacaagaa agggaggtct 960
231 tgcagtgatt aaggctcttc tttggactct cccctcttat gtaacctctt tagtcatttt 1020
232 gcttcatagc tggttctctc tagaatggg aaatgcctaa taatatgact tcccaactgc 1080
233 aagtcacaaa ggaatggagg ctctaattga attttcaagc atctctctgag gatcagaaaq 1140
234 taattttctc tcaaatggta cttccactga tggaaacaaa gtggaaggaa agatgtctcag 1200
235 gtacagagaa ggaatgtctt tggctctctt gccatctata ggggccaaat atattctctt 1260
236 tgggtgtaca aatgggaattc attctgcgtc tctctattac actgaagata gaagaaaaaa 1320
237 aatgtctaga aaaaacataa gagcgtttgc ccaaatctgc ctattgcage tgggagaaag 1380
238 ggggtcaaac aaggatcttt caccacaga aagagagcac tgaccccgat ggcgatggac 1440
239 tactgaagcc ctactcagc caaccttact tacagcataa gggagcgtag aatctgtgta 1500
240 gacgaagggg gcatctggcc ttacacctcg ttagggaaga gaaacagggt cttgtcagca 1560
241 tcttctcact ccttctctct tgataacagc taccatgaca accctgttgt ttccaaagaa 1620
242 ctgagaatag aaggaaacta gcttacctga gaacagactg gctgaggag cagcagttgc 1680
243 tgggtgctaa tgggtgtaacc tgagatggcc ctctggtaga cacaggatag ataactcttt 1740
244 ggatagcatg tctttttttc tgttaattag ttgtgtactc tggcctctgt catattctta 1800
245 caatgggtct catttctctt ggtattatcc attcagtcac cgtaggtgat ttgaaggtct 1860
246 tgatttggtt tagaatgatg cacatttcat gtattccagt ttgtttatta cttaatttgg 1920
247 gttgcacatg aatgtctcg agaataattc ttgtattatg actgtttttt aaactaggaa 1980
248 aattggacat taagcatcac aatgatatt aaaaattggc tagttgaalc tattgggatt 2040
249 ttctacaagt attctgcctt tgcagaaaca gatttgggtg atttgaatct caatttgagt 2100
250 aatctgatcg ttctttctag ctaatggaaa atgattttac tttagcaatgt tatcttgggt 2160
251 tgttaagagt taggtttaac ataaaggtta ttttctctcg atatagatca cataacagaa 2220
252 tgcaccagtc atcagctatt cagtttgtaa gcttccagtc atcagctatt cagtttgtaa 2280
253 gcttccaggg aaaaaggaca ggcagaaaga gtttgagacc tgaatagctc ccagatttca 2340
254 gtcttttaat gtttttgtaa actttgggtt aaaaaaaaaa aaagtctgat tggttttaat 2400
255 tgaaggaaaag atttgtacta cagttctttt gttgtaaaaga gttgtgttgt tcttttcccc 2460
256 caaagtggtt tcagcaatat ttaaggagat gtaagagctt taaaaaaga cacttgatac 2520
257 ttgttttcaa accagtatac aagataagct tccaggctgc atagaaggag gagagggaaa 2580
258 atgttttcta agaaaccaat caagataaag gacagtgaag taatccgtac cttgtgtttt 2640
259 gtttttgatt aataacataa caaataacca acccttccct gaaaacctca catgcataca 2700
260 tacacatata tacacacaca aagagagtta atcaactgaa agtgttctct catttctgat 2760
261 atagaattgc aattttaaca cacataaagg ataaactttt agaaacttat cttaacaaag 2820
262 gtattttata aaattaaaga aaataaaatt aagaatgttc tcaatcaaac atcgtgtcct 2880
263 ttgagtgaaat tgttctatct gacttcacaa tagaaactta ataatcgtac cttctcaaga 2940
265 <210> SEQ ID NO: 9
266 <211> LENGTH: 17538
267 <212> TYPE: DNA
268 <213> ORGANISM: Homo sapiens
270 <400> SEQUENCE: 9
271 atggaaatgt tctgtatttg tgtgtctga tgagataacc actaactgta gtgtattga 60
272 gcatttgaaa catggtcagt gtaatcaatg aaccaaaatt ttaattttat ttaattgtaa 120

```

VERIFICATION SUMMARY

PATENT APPLICATION: US/09/314,161

DATE: 02/23/2001

TIME: 14:20:16

Input Set : A:\314161.txt

Output Set: N:\CRF3\02232001\I314161.raw

L:203 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:7